



Construction and Materials Manual

Wisconsin Department of Transportation

Chapter 1 General Provisions

Section 60 Construction Inspection

All portions of the work and materials are inspected to obtain acceptable work in accordance with the requirements of the contract. It is the duty of the inspection forces to determine that the work is performed in accordance with the specified requirements. The inspection forces are represented by the engineer and the inspectors.

To provide good inspection, an inspector must have a ready knowledge of the work required by the contract. Before construction, all members of the inspection forces should thoroughly study the plans, specifications, and contract provisions to familiarize themselves with the requirements and be prepared to readily and correctly answer questions concerning the work that may arise during the construction operations. Inspectors should consult with the engineer before the work is started for clarification of provisions or requirements not thoroughly understood.

The inspector must make certain all materials and work are in compliance with the contract. The contractor's operations should be closely observed, tested, measured, and documented. It is the inspector's responsibility to be in the right place at the right time.

Unacceptable work and proposed material rejections must be brought to the contractor's attention at once for prompt correction. If not promptly corrected, the situation should be brought before the engineer for resolution.

Most work inspection requires the inspector to be present during the operations where the inspector can observe details of the work. Instructions to the contractor about the work will be in the form of the results desired rather than of the method of doing it, except when specifications require a specific method be followed. Suggestions may be made when asked for by the contractor. A daily record will be kept, for future reference, of all pertinent instructions and suggestions given the contractor, including the date, name of party to whom given, whether written or oral, and all pertinent information.

Orders given for corrections of errors found in the work are to be based on judgment that reflects fairness, impartiality and a thorough knowledge of the work in question. Should the contractor take exception to such orders, arguments are to be avoided and the matter immediately referred to the engineer for interpretation and settlement before the work progresses. To avoid complications in final settlement of a project and possible claim for extra compensation, differences arising between the engineer and the contractor over interpretation of the standard specifications or other requirements of the contract are to be promptly referred to the region for an understanding and agreement with the contractor or the work requirements.

When checking equipment, the inspector will tell the contractor of any correction of adjustment necessary, but will not specify any method of correction. The inspector will recheck upon completion of the adjustment. When a particular type of equipment is required by the contract, an inspection of the equipment furnished will be made to determine compliance with the specification requirements.

Unsafe working conditions are to be brought to the attention of the contractor for immediate correction. The circumstances should be noted in the inspector's diary. If the unsafe conditions are not promptly corrected, the situation should be brought before the engineer for resolution.

The importance of each inspector keeping a neat, complete, up-to-date, and accurate diary and submitting reports in a timely manner cannot be overemphasized. If there are disputes, the diary records are the legal documents with which the matter may be resolved. They also serve as one basis for contractor payment.

1.60.1 ENGINEER'S DIARY

The engineer's diary is primarily a record of the daily work performance of the contractor. It is also a record of many other significant, contract-related matters. This diary is one of the most important of all the required records and should be written so that project activities and status on any given day will be clear to any present-day or future reader.

For contracts administered in the FieldManager® software, an engineer's diary is contained within the application. The site time, comments, and Inspector Daily Records (IDR's) can be edited up to the point that an estimate is generated and sent. Portions of this diary are required to be filled out to generate a construction pay estimate. Printouts of entire diaries will be necessary for record preservation until the time that the files can be written to an acceptable archive format. The Field Information Tracking system allows a printout of the diary to be done for a specified date range.

A separate diary should be kept for each contract. If there is more than one project under the contract, the activities for each project should be listed separately within the diary. For contracts administered in the FieldManager® and printed from the Field Information Tracking system, the project number, name of the road, highway number, county, contract number, the prime contractor, and the engineer are automatically contained in the printout of the diary. The print out also contains the names of the project manager and supervisor that were entered in the Field Information Tracking system.

See the FieldManager® instruction manual of where and how to enter information. The following information should be recorded daily:

1. Weather conditions and temperature range.
2. Contractor's work force and equipment. Describe inefficient operations and poorly maintained equipment.
3. Description of major construction activity. Include locations and approximate quantities.
4. Controlling item of work.
5. Percent of delay. Report to the nearest ½ working day on the controlling item and the reason for the delay such as weather, utility conflicts, or inadequate prosecution by the contractor. See [standard spec 108.9.2.2](#) for information on charging hours.
6. Suspensions and resumptions of contractor operations. Causes and dates should be recorded.
7. Utility operations. Report on their progress, conflicts with contractor operations and any resultant delays, and quality of workmanship as it affects the project.
8. Summary of significant conversations. Include orders to the contractor, directions and advice from supervisor, and discussions with FHWA representatives, property owners, local officials, and utility and railroad representatives.
9. Reports of meetings and conferences. Record sources of dispute and decisions made.
10. Unusual or materially different physical working conditions from those expected under the contract. Record all significant information about the working conditions, progress of work, work force, equipment, and materials that would be of value should the contractor file claims for extra compensation.
11. Significant information on other work operations if not recorded in a separate field inspection diary. For instance, when a separate grade inspector's diary is not kept the information should be entered in the engineer's diary to provide a record of grading performance and compaction achievement.
When concrete and asphaltic plant inspection or job control sampling and testing is performed only on a random basis the method of acceptance must be documented by the appropriate diary entry unless a Report of Field Inspection of Material is used. The entry should be made in a section of the diary reserved for this type of entries to allow quick access for review.
12. Major discrepancies in the plans or contract. Necessary changes and subsequent actions taken to correct the situation should be recorded.
13. Prior approvals from the region for contract change orders. Note the date of approval and summary of work involved. Note also any special conditions related to the approval.

The diary should be turned into the region office upon completion of the contract work.

1.60.2 INSPECTORS' DIARIES

The inspector for each major work operation should keep a detailed inspection diary, with the following information recorded each day of the work operation.

1. Weather and roadway conditions
2. Contractor forces, equipment, materials used, and hours worked.
3. Detailed description of work, including location, sizes, quantities, and methods.
4. Percent of delays, reasons for the delays, and subsequent corrections by the contractor.
5. Inspection checks, tests, and samplings.
6. Instruction from WisDOT representatives.
7. Instructions given to the contractor.

8. Requests from the contractor and disposition of those requests.
9. Contact with property owners, utilities, the public, and others.
10. Contractor compliance with specifications.
11. Initials of inspector making the entry.

For contracts administered in the FieldManager® software, the inspectors' diaries are recorded in the Item Daily Record (IDR). FieldBook®, an application provided in conjunction with FieldManager®, can be loaded on a separate computer for the inspector to use while out on the project. FieldPad®, also provided in conjunction with FieldManager®, can be used for the completion of an IDR, and uses a pen-based notebook for this purpose.

For contracts not administered in the FieldManager® software, manual entries should be made in a bound field book. The work operation that is being inspected should be printed on the cover. The project identification number, contract number, description of road, highway, and county should be recorded on the first page.

If an IDR is not used, the internal organization of the diary should be set up in conjunction with the engineer before the start of the work operation. The use of standard approved formats is desirable when the diary entries are routine and repetitive daily. A standard simplified format can be entered on the margin or top of the front page. Succeeding pages can be "cut back" to reveal the line titles or column headings of the first page. This standard format provides valuable inspection control for the engineer and specific guidance for the inspector. Incorrect entries should be lined out, not erased, and after the correction is made the author should initial it.

If separate materials diaries are not kept or if pertinent materials information does not appear in the records, the inspectors' diaries should contain information about materials that, when tested, failed to meet specification requirements. If the material met specifications upon retest, a simple entry such as "retest satisfactory" is sufficient. The basis of acceptance of material that failed to meet tests but was used in the work should be entered. Additional information such as manufacturer, brand, model, source, lot #, batch #, or heat number should also be recorded.

The diaries need to be reviewed periodically by the engineer for completeness, clarity, and correctness. They are to be turned over to the engineer upon completion of the work operation.

1.60.3 CONSTRUCTION INSPECTION CHECKLISTS

The Bureau of Project Development Project Services Section has developed construction inspection checklists for select construction operations. The checklists are a good reference to prepare for field inspection, providing standard spec references that the inspector should be familiar with before inspection. They also provide many other requirements and considerations for the respective construction operations.

Links to the checklists are provided below.

- [Piling](#)
- [Pipe](#)
- [Superstructures](#)
- [Topsoil, fertilizer, seeding, mulching, and sodding](#)
- [Traffic control](#)